

## **CLAIMS**

What is claimed is:

1. A method of shifting a vehicle transmission, comprising the steps of:
  - (a) having at least a first shift mode and a second shift mode, each of the modes permitting a transition from a first gear ratio to a second gear ratio of a transmission;
  - (b) electronically sensing at least one vehicle condition;
  - (c) electronically evaluating the sensed at least one vehicle condition;
  - (d) electronically identifying an appropriate shift mode from among at least the first shift mode and the second shift mode based on the evaluation of step (c); and
  - (e) shifting from the first gear ratio to the second gear ratio in the shift mode identified in step (d).
2. The method of shifting of Claim 1 wherein during step (e) the first shift mode permits shifting from the first gear ratio to the second gear ratio at a first predetermined speed and the second shift mode permits shifting from the same first gear ratio to the same second gear ratio at a second predetermined speed that is less than the first predetermined speed.

3. The method of shifting of Claim 2 wherein the at least first shift mode and the second shift mode further includes a third shift mode and a fourth shift mode, the third shift mode transitioning the transmission from the same first gear ratio to the same second gear ratio at a third predetermined speed and the fourth shift mode transitioning the transmission from first same gear ratio to the same second gear ratio at a fourth predetermined speed, the third predetermined speed less than the second predetermined speed and the fourth predetermined speed less than the third predetermined speed.
4. The method of shifting of Claim 2 wherein the first shift mode permits the reaching of a predetermined engine torque faster than the second shift mode.
5. The method of shifting of Claim 2 wherein the first shift mode results in faster engine braking than the second shift mode.
6. The method of shifting of Claim 2 wherein the first shift mode results in a higher level of responsiveness of a transmission actuator that selects between the first gear ratio and the second gear ratio than the second shift mode.
7. The method of shifting of Claim 2 wherein the first shift mode offers a wider range of engine speeds in which the transmission will shift between the first gear ratio and the second gear ratio than the second shift mode.

8. The method of shifting of Claim 2 wherein the first shift mode offers a different clutch configuration for a clutch associated with the transmission than the second shift mode.

9. The method of shifting of Claim 2 wherein the first shift mode offers a different engine configuration for an engine associated with the transmission than the second shift mode.

10. The method of shifting of Claim 1 wherein the at least one vehicle condition comprises a plurality of vehicle conditions.

11. The method of shifting of Claim 10 including the steps of assigning a ranking value to each vehicle condition and assessing the ranking value to identify the appropriate shift mode.

12. The method of shifting of Claim 1 wherein the transmission comprises an automatic manual transmission.

13. A method of shifting a vehicle transmission, comprising the steps of:
- having at least a first shift mode and a second shift mode, each of the modes permitting a transition from a first gear ratio to a second gear ratio of an automatic manual transmission;
  - electronically sensing a plurality of vehicle conditions;
  - electronically evaluating the sensed plurality of vehicle conditions by assigning a ranking value to each of the sensed plurality of vehicle conditions and assessing the ranking value;
  - electronically selecting from among at least the first shift mode and the second shift mode based on the evaluated vehicle condition; and
  - transitioning from the first gear ratio to the second gear ratio based on the selection wherein the first shift mode transitions the transmission from the first gear ratio to the second gear ratio faster than the second shift mode.
14. The method of shifting of Claim 13 wherein the first shift mode permits the reaching of a predetermined engine torque faster than the second shift mode.
15. The method of shifting of Claim 13 wherein the first shift mode results in faster engine braking than the second shift mode.

16. The method of shifting of Claim 13 wherein the first shift mode results in a higher level of responsiveness of a transmission actuator that selects between the first gear ratio and the second gear ratio than the second shift mode.

17. The method of shifting of Claim 13 wherein the first shift mode offers a wider range of engine speeds in which the transmission will shift between the first gear ratio and the second gear ratio than the second shift mode.

18. The method of shifting of Claim 13 wherein the first shift mode offers a different clutch configuration for a clutch associated with the transmission than the second shift mode.

19. The method of shifting of Claim 13 wherein the first shift mode offers a different engine configuration for an engine associated with the transmission than the second shift mode.

20. A vehicle transmission system, comprising:
- an automatic manual transmission including a plurality of gear ratios;
  - at least one vehicle condition sensor; and
  - a control unit in communication with said at least one vehicle condition sensor to control shifting of said automatic manual transmission between said plurality of gear ratios wherein said control unit selects from a plurality of shift modes including at least a first shift mode and a second shift mode based on data received from said vehicle condition sensor with said first shift mode shifting from a first gear ratio to a second gear ratio at a first predetermined speed and with said second shift mode shifting from said first gear ratio to said second gear ratio at a second predetermined speed that is less than said first predetermined speed.